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Atty's 23369

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## CLAIM AMENDMENTS

1           1.   (currently amended) A recombinant nucleic acid for  
2 promoting microbial production of L-serine directly from  
3 carbohydrates, by avoiding or at least reducing decomposition of  
4 the L-serine to pyruvate and which is capable of replication in a  
5 microorganism of the family Corynebacterium said recombinant  
6 nucleic acid having comprising at least one serine biosynthesis  
7 sequence selected from the group consisting of serA, serB and serC  
8 and a nucleotide sequence encoding L-serine dehydratase which is  
9 partially or completely deleted or is mutated or fragments of the  
10 nucleotide sequence according to SEQ ID NO:1 encoding L-serine  
11 dehydratase flanking the 5' end and the 3' end of said nucleotide  
12 sequence encoding L-serine dehydratase to permit complete removal  
13 of said nucleotide sequence encoding L-serine dehydratase by  
14 homologous recombination and which is expressed to a lesser degree  
15 than the expression of the naturally occurring L-serine dehydratase  
16 having nucleotide sequence of SEQ ID NO: 1 or which is not  
17 expressed at all.

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1           2. (previously presented) A recombinant nucleic acid  
2 according to claim 1, wherein the nucleotide sequence encoding L-  
3 serine dehydratase is partially deleted or is mutated and expressed  
4 to a lesser extent in comparison with the expression of the  
5 naturally occurring sequence of SEQ ID NO: 1 or not expressed at  
6 all.

1           3. (previously presented) A recombinant nucleic acid  
2 according to claim 2, wherein the nucleotide sequence encoding L-  
3 serine dehydratase is a nucleotide sequence according to SEQ ID NO  
4 1 whose nucleotides from position 506 to position 918 are  
5 completely or partially deleted or are mutated, or an allele  
6 functionally equivalent thereto, or a homolog having a sequence  
7 complementary to said nucleotide sequence according to SEQ ID NO 1  
8 whose nucleotides from position 506 to position 918 are completely  
9 or partially deleted or are mutated or a nucleotide sequence  
10 hybridizing under stringent conditions with said nucleotide  
11 sequence according to SEQ ID NO 1 whose nucleotides from position  
12 506 to position 918 are completely or partially deleted or are  
13 mutated.

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1           4. (previously presented) A recombinant nucleic acid  
2 according to claim 1, isolated from a coryneform bacterium.

1           5. (previously presented) A recombinant nucleic acid  
2 according to claim 1, isolated from *Corynebacterium* or  
3 *Brevibacterium*.

1           6. (previously presented) A recombinant nucleic acid  
2 according to claim 1, isolated from *Corynebacterium glutamicum* or  
3 *Brevibacterium flavum*.

1           7. (previously presented) A gene structure containing  
2 at least one nucleotide sequence according to claim 1 and  
3 nucleotide sequences having regulatory sequences operatively linked  
4 therewith.

1           8. (previously presented) A vector containing at least  
2 one nucleotide sequence or a gene structure according to claim 7  
3 and additional nucleotide sequences for selection, for replication  
4 in the host cell or for integration in the host cell genome.

9 through 13 (canceled)

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1           14. (currently amended) A microorganism having at least  
2 one serine biosynthesis sequence selected from the group consisting  
3 of serA, serB and serC and [[a]] an endogenous nucleotide sequence  
4 which encodes an L-serine dehydratase, which is deleted in whole or  
5 in part or is mutated and which is expressed to a reduced extent in  
6 comparison with expression of the naturally occurring L-serine  
7 dehydratase having nucleotide sequence of SEQ ID NO: 1 or is not  
8 expressed at all, so that the endogenous nucleotide sequence  
9 encoding L-serine dehydratase no longer encodes a protein with L-  
10 serine dehydratase activity.

1           15. (currently amended) A microorganism according to  
2 claim 14, wherein the nucleotide sequence which encodes an L-serine  
3 dehydratase has [[q]] a nucleotide sequence of SEQ ID NO: 1 which  
4 is partially deleted or mutated and is expressed to a reduced  
5 extent in comparison with expression of the naturally occurring L-  
6 serine dehydratase or is not expressed at all.

1           16. (previously presented) A microorganism containing  
2 in a form capable of replication, a nucleic acid according to claim  
3 1.

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1           17. (currently amended) A microorganism according to  
2 claim 14, that ~~[[it]]~~ is a coryneform bacterium.

1           18. (previously presented) A microorganism according to  
2 claim 14, belonging to the family of coryneform bacteria or  
3 brevibacteria.

1           19. (previously presented) A microorganism according to  
2 claim 14, belonging to the family of *Corynebacterium glutamicum* or  
3 *Brevibacterium flavum*.

1           20. (previously presented) A probe for identifying  
2 and/or isolating genes coding for proteins which participate in the  
3 biosynthesis of L-serine and which has a length of 10 to 30 nucleic  
4 acids, and which contains a partial sequence of the nucleic acid  
5 which encodes an L-serine dehydratase, according to claim 1,  
6 serving as a suitable marker for detection of said genes.

21 through 25 (canceled)

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1           26. (currently amended) A recombinant nucleic acid for  
2 promoting microbial production of L-serine directly from  
3 carbohydrates, by avoiding or at least reducing decomposition of  
4 the L-serine to pyruvate and which is capable of replication in a  
5 microorganism of the family Corynebacterium said recombinant  
6 nucleic acid having at least one serine biosynthesis sequence  
7 selected from the group consisting of serA, serB and serC and a  
8 nucleotide sequence encoding L-serine dehydratase according to SEQ  
9 ID NO 1 whose nucleotides from position 506 to position 918 are  
10 completely or partially deleted or are mutated ~~and expressed to a~~  
11 ~~lesser degree than the expression of the naturally occurring L-~~  
12 ~~serine dehydratase having nucleotide sequence of SEQ ID NO: 1 or~~  
13 ~~which is not expressed at all~~ such that said sequence no longer  
14 encodes a protein having L-serine dehydratase activity.

1           27. (previously presented) The recombinant nucleic acid  
2 defined in claim 26 having a nucleotide sequence encoding L-serine  
3 dehydratase according to SEQ ID NO 1 whose nucleotides from  
4 position 506 to position 918 are completely deleted.

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1           28. (New) The recombinant nucleic acid defined in claim 1  
2 comprising at least one serine biosynthesis sequence selected from  
3 the group consisting of serA, serB and serC and fragments of the  
4 nucleotide sequence according to SEQ ID NO:1 encoding L-serine  
5 dehydratase flanking the 5' end and the 3' end of said nucleotide  
6 sequence encoding L-serine dehydratase to permit complete removal  
7 of said nucleotide sequence encoding L-serine dehydratase by  
8 homologous recombination and which is not expressed at all.